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*Class I Impacts:  
Work During Incarceration  
and Its Effects on Post-Prison  
Employment Patterns and Recidivism*



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## EXECUTIVE SUMMARY

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Much research has been conducted regarding employment, education, and its effects on in-prison behavior, post-prison employment patterns, and recidivism. Due to methodological obstacles however, the effects of employment and education on offender behavior have been difficult to ascertain, thus difficult to generalize the findings. The purpose of this study was to determine how offenders involved in correctional employment in the Washington State Department of Corrections affected outcomes such as infractions while incarcerated, post-prison employment rates, post-prison wages earned, and recidivism.

The research objectives were investigated by focusing on offenders who participated in Class I employment during their incarceration. Class I jobs are those in which a contract exists between the Department of Corrections and a private sector business. Two study groups were selected from a cohort of offenders who released from prison sometime between 1992 and 1996. The test group consisted of offenders who were involved in Class I industries at some point during their incarceration. The comparison group consisted of offenders who were not involved in a Class I industry during their incarceration. In order to ensure similarity of the study groups, the comparison group was drawn to match the test group on the following demographic variables: sex, offense type, age, race and number of years incarcerated.

Offenders who participate in Class I industries are quite different than the general prison population in many aspects. Because the comparison group was drawn to closely match the test group on several demographic variables, there is great confidence in the findings of the study. The following are the results of the study for each of the research objectives.

### **Infractions**

- There was no difference between the test and comparison groups for the rate of infractions received within three years of release.
- More offenders in the Class I industries group received at least one infraction compared to their counterparts.
- Offenders in the comparison group received slightly more person type infractions than the test group.

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## **Employment**

- Offenders who participated in Class I industries had a higher employment rate than offenders who did not participate.
- Being a drug or sex offender were the top two predictors of obtaining employment upon release.
- Regardless of Class I participation, offenders who had a high school diploma or GED had higher employment rates than offenders who did not have an education. Having an education was also the third highest predictor in obtaining employment.
- In both the test and comparison groups, younger offenders had higher employment rates than older offenders.
- Long-term incarcerates in the test group had higher employment rates than short-term incarcerates.

## **Wages Earned**

- Class I participants earned higher average wages within one year of release than offenders who did not participate.
- In both study groups, sex offenders earned the highest wages when looking at offense type.
- Older offenders earned higher wages than younger offenders in both of the study groups.
- Long-term incarcerates in the test group earned higher average wages than short-term incarcerates.

## **Recidivism**

- Class I participants recidivated at a lower rate (17 percent) than their counterparts (24 percent).
- Class I participants who were employed upon release had a lower recidivism rate than Class I participants who were unemployed upon release. There was no difference in recidivism rates for the comparison group when looking at employment status.
- Being a property offender was the top predictor of returning to prison.
- The second highest predictor of returning to prison was earning wages less than \$5,000.
- Older offenders recidivated at a lower rate than younger offenders in both study groups.
- Long-term incarcerates who obtained employment upon release had higher recidivism rates than long-term incarcerates who did not obtain employment.

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Overall, findings from the study indicate that offenders who participated in Class I industries did better on most outcome measures than their counterparts. Offenders who participated in Class I industries had a higher employment rate, earned higher post-prison wages, and recidivated less often than their counterparts who did not participate in a Class I industry. The only outcome in which there appears to be no difference between the groups is infractions.

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## LITERATURE REVIEW

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Employment and education programs have been implemented for a variety of reasons. It has been thought that providing employment, education, and skills training for offenders might augment the employability of an offender upon release into the community (Uggen 2000). It has also been postulated that employment and education enable the offender to develop a sense of responsibility and self-discipline, which provide the offender with the proper skills to desist from crime (Waldo & Chiricos 1977). A third rationale for employment and education programs is the presumption that participation in work and education might decrease the number of infractions offenders receive by curtailing idleness (Wilson et al. 2000; Van Valkenberg 1998). Finally, there is the presumption that employment and education programs are a cost savings to the state when offenders earn wages, which pay for the cost of incarceration, restitution, legal debts and taxes (Witte 1977). A cost savings is also assumed to result from instilling a work ethic in offenders who will presumably be better able to provide for themselves after incarceration.

### Findings in the Literature

The literature indicates fairly consistent results on employment outcomes for offenders. Research shows that incarceration has serious consequences on employment and earnings patterns (Western 2002; Martinez & Eisenberg 2000; Kling 1999; Waldfogel 1994; Grogger 1995; Lott 1990). Martinez and Eisenberg (2000) found in their study for the Texas Department of Corrections that the unemployment rate for people who have been incarcerated was 30 percent compared to only 4.8 percent of the population of Texas. Despite this apparent employment barrier for people who have been incarcerated, several studies have found that offenders who participate in prison industries, work release programs, or education programs, have lower unemployment rates than their incarcerated counterparts who do not participate in such programs (Wilson et al. 2000; Saylor & Gaes 1996). Saylor and Gaes (1996) found in their study of correctional employment and vocational training impacts on post-release behavior that, 71 percent of program participants were able to establish and maintain employment as opposed to 63 percent of the comparison group.

Research findings on the impact of correctional employment, education, and vocational training on post-prison employment patterns are less conclusive than the findings on recidivism. Some researchers have found promising conclusions (Steurer et al. 2001; Wilson et al. 2000; Harer 1995; Adams et al. 1994; Harer 1994; Wilson 1994; Porporino & Robinson 1992), while others have not (Adams et al. 1994; Marquart et al. 1994;

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Waldo & Chiricos 1977; Witte 1977). A recent meta-analysis conducted on corrections-based employment, education, and vocational programs found that recidivism rates were lower for participants overall by 11 percent (Wilson et al. 2000). Saylor and Gaes (1996) found in their longitudinal study of the Post Release Employment Project that participants in work and vocational training recidivated less often than their counterparts. Only 6.6 percent of the program participants were rearrested compared to 10.1 percent of the comparison group. Similar to these findings, Uggen (2000) discovered that offenders who were provided with employment opportunities, such as construction and service industries, were less likely to recidivate (30 percent rearrest) than those who were not provided employment (40 percent rearrest).

### **Research and Evaluation Obstacles**

Despite the probable advantages of job skills and education, the mechanics of research evaluation have complicated researchers' ability to determine whether or not work and education are causal agents in reducing recidivism and increasing positive outcomes (such as higher employment rates and wages). Evaluation of employment and education programs thus far have demonstrated that studies utilizing stronger research designs find fewer positive effects of employment when measuring outcomes such as recidivism and program cost (Wilson et al. 2000; Phipps et al. 1999; MacKenzie & Hickman 1998).

According to some, disparate findings of work and education programs are the result of methodological problems in studies and evaluations (Wilson et al. 2000; Phipps et al. 1999; Turner & Petersilia 1997). For instance, because most employment and education evaluations use quasi-experimental designs, they lack true randomization; thus the treatment and comparison groups are not comparable. When the groups are not similar, it is difficult to ascertain if an offender's behavior has changed due to the treatment or because the individual was predisposed to change. Non-comparable groups are frequently the result of self-selection, which may threaten the integrity of an experiment. Offenders who participate in programs are often those who volunteer, and therefore might have a higher motivation level than those who fail to enlist (Rossi et al. 1999). Since the offender volunteered to participate in the program, or was required to meet minimum entrance criteria to attain program eligibility, it is difficult to determine if job skills and education would have had the same effect on offenders who did not volunteer for the program. Some research has demonstrated that recidivism rates are reduced and other positive outcomes are increased for those offenders who volunteer to participate in a program as opposed to those who do not volunteer (Uggen 2000; Wilson et al. 2000; Saylor & Gaes 1996).

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Since vastly different findings have been discovered over the years, it is essential to further explore the relationship between employment, education and recidivism. Furthermore, given the trend of increased incarceration rates and volatile state budgets, widespread financial strains have forced correctional administrators to ensure state money is being spent on programs that produce the assumed changes. Thus, it is imperative to examine if programs such as in-prison employment and education have a positive impact on offenders and the community at large. The purpose of this study is to determine how Correctional Industries Class I employment in Washington Department of Corrections affects offender outcomes such as infractions while incarcerated, post-prison employment rates, post-prison wages, and recidivism rates.

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## RESEARCH DESIGN

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### Research Setting

The objective of the Correctional Industries Program is “to develop marketable job skills, instill and promote a positive work ethic among offender workers, and reduce the tax burden of corrections” (Correctional Industries: Office of Correctional Operations 2000, p. 1). Although there are various types of employment within the Correctional Industries Program, the research questions at hand were investigated by focusing on offenders who participated in Class I employment during their incarceration.

Class I jobs are those in which a contract exists between the Department of Corrections and a private sector business. The contracted business provides the equipment and manages, supervises, and trains offenders employed by the business. The Department is responsible for providing office and production space within the institution and on-site custody supervision.

Department policy states that “CI shall consult with labor and business groups who may be affected by partnerships and verify through the Employment Security Department, that employed workers in the community are not displaced nor existing contracts impaired by the program activities” (Department of Corrections Policy No. 710.500). The Employment Security Department’s Labor Market and Economic Analysis Branch then verifies that the offenders’ wages are comparable to wages for similar work for persons in the community.

The criteria for the employment application process for Class I jobs vary from institution to institution, as well as within each industry. On a typical basis, however, when an industry has a job opening, it is posted on the bulletin board of the units that house offenders who have the appropriate classification level required by the Class I industry. An offender who is interested in a particular position completes an application, which is then given to the classification counselor. The counselor reviews the application to determine if the offender meets all of the minimum qualifications for that particular job. A unit team, which consists of all counselors in the unit and the unit supervisor, then screens the application. If the offender meets the criteria specific for that job, the application is forwarded to the private business, which has full discretion thereafter in the hiring process, typically, through an interview.

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Not only does the application process vary slightly for each industry and for each institution, but the selection criteria may also vary for each job depending on the skills necessary to fulfill a particular job. However, classification counselors and unit teams typically determine if the offender meets the following criteria: the offender is of the appropriate classification level, has the mental and physical health status required for the position, has been serious infraction-free for the past six months, has the general skills necessary for the job they are applying for, and has worked in an institutional support job (such as a food service worker or custodian) for at least three months. The selection criteria for Class I jobs may change as supply and demand of the industry changes. It is also important to note that the industries may change as businesses continue or discontinue partnerships with the Department. The types of Class I industries during the time of study include metal assembly and fabrication, sewing, embroidery, packaging, and computer cable assembly among many others.

## **Data and Methods**

To demonstrate a treatment effect, a true experimental design using random assignment and a control for motivation would be ideal. However, due to security issues, the need for specific job skills, and limited program availability, this research design was not practical. Therefore, a quasi-experimental design was used.

The test group was drawn from a population of offenders who were involved in Class I employment at some point between 1992 and 1995, and were released from prison between 1992 and 1996, yielding 336 males and 88 females, a total of 424 offenders. The comparison group was then drawn to match the test group on the following independent variables: sex, offense type, age, race, and years incarcerated<sup>1</sup>. Offenders in the comparison group were not in Class I jobs between 1992 and 1995, and also released between 1992 and 1996.<sup>2</sup> The comparison group consisted of 323 males and 80 females, a total of 403 offenders.

Correctional data for the study were obtained from the Department of Corrections' electronic data file, the Offender Based Tracking System (OBTS). OBTS is the Department's operational database, which manages all information of persons who are or have been under the jurisdiction of the Department. Demographic data such as sex,

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<sup>1</sup> Education status was an independent variable used for analytical purposes, but was not used for selecting the comparison group due to a lack of correctional data on education.

<sup>2</sup> It is unknown whether the comparison group held Class I jobs during a previous incarceration or prior to the time period of study.

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offense type, age, race, and length of incarceration were collected from OBTS. Infraction data and subsequent returns to prison were also collected from OBTS.

Employment data were obtained from the Employment Security Department of Washington State. The Employment Security Department collects wage information from employers in the state of Washington and report the data on a quarterly basis. Data elements obtained from the Employment Security Department for the study included the quarters an offender worked and wages earned in a given quarter. Since the data from the Employment Security Department are limited to employment in the state of Washington, employment outside the state would not be accounted for. However, it is believed this is not a threat to the findings of the study because offenders remain on community supervision for an average of two years, and employment was tracked for one year upon release.

Education data for the study were collected from the State Board of Community and Technical Colleges (State Board). The State Board maintains a database of all persons who have received a high school diploma or General Educational Development (GED) in the state of Washington and the date it was received. The State Board does not have the ability to track high school diplomas or GED's that were obtained in other states, therefore introducing a possible limitation to the study. It should be noted, however, that education data were also collected by the Department as offenders passed through reception when admitting to prison. Therefore, if an offender obtained a GED from another state prior to incarceration, this would be captured in the Department's correctional data from OBTS. For the purposes of this study, offenders who have a high school diploma or GED are defined as having an education. Persons who did not complete a GED before or during incarceration are defined as not having an education.

Statistical methods used to analyze the data include contingency tables and logistic regression analysis. Contingency tables were developed in order to measure the statistical significance of the relationship between independent and dependent variables. Logistic regression analysis was used to determine which independent variables were statistically significant in predicting the dependent variables (employment and recidivism). All of the demographic variables used in the study were included as the independent variables in the regression model. When the independent variables were not dichotomous (i.e., offense type), the variable found to be least significant in the contingency tables was excluded so as to not over-specify the regression model.

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## Demographics of the Study Groups

In order to know the size of the treatment effect, it is important to understand the degree to which the test and comparison groups differ from each other on the demographic variables used to select the study groups. Furthermore, it is essential to ensure that the study groups are representative of the Class I industries population, so findings can be generalized to the Class I population. Finally, one must understand the differences between the Class I population and the general prison population in order to ascertain how self-selection influences the success or failure of the individuals who participated in Class I employment.

Table 1 presents a comparison of the demographic variables for the study groups, the Class I population, and the prison population in general. Significance tests were used to determine if there was a statistically significant difference between the test and comparison groups. For the variables used to draw the comparison group, years in prison was the only variable in which a significant difference existed. Sixty-two percent of the comparison group was incarcerated for less than two years compared to only 19 percent of the test group. A possible explanation for this difference may be because Class I supervisors tend to hire offenders who have more time to serve in order to avoid high turnover and training costs. Since there is a limited Class I population, and offenders for the study groups had to have released from prison, this variable was more difficult to match the study groups on.

**Table 1**

DEMOGRAPHICS OF STUDY GROUPS AND POPULATIONS									
SEX	Male		Female		Total				
	N	%	N	%					
Class I Group	336	79%	88	21%	424				
Comparison Group	323	80%	80	20%	403				
Class I Population	327	80%	83	20%	410				
Prison Population	10704	94%	740	6%	11444				
OFFENSE	Property		Drug		Person		Sex		Total
	N	%	N	%	N	%	N	%	
Class I Group	59	14%	87	21%	98	23%	180	42%	424
Comparison Group	60	15%	81	20%	98	24%	164	41%	403
Class I Population	25	6%	62	15%	129	31%	194	47%	410
Prison Population	1784	16%	2834	25%	4014	35%	2812	25%	11444
AGE	< 30		30 to 44		45 & up		Total		
	N	%	N	%	N	%			
Class I Group	91	21%	268	63%	65	15%	424		
Comparison Group	99	25%	238	59%	66	16%	403		
Class I Population	82	20%	271	66%	57	14%	410		
Prison Population	4716	41%	5231	46%	1497	13%	11444		
RACE	White		Black		Other		Total		
	N	%	N	%	N	%			
Class I Group	319	75%	88	21%	17	4%	424		
Comparison Group	304	75%	73	18%	26	6%	403		
Class I Population	307	75%	86	21%	17	4%	410		
Prison Population	8189	72%	2580	23%	675	6%	11444		
YEARS IN PRISON*	< 2		2 to 5		> 5		Total		
	N	%	N	%	N	%			
Class I Group	81	19%	237	56%	106	25%	424		
Comparison Group	250	62%	110	27%	43	11%	403		
Class I Population	26	6%	131	32%	253	62%	410		
Prison Population	1953	17%	3625	32%	5866	51%	11444		

\* Test and comparison groups were statistically different at the  $p \leq .05$  level.

Another significant difference between the study groups was the education status. Although the comparison group was not drawn to match the test group on education level, education was used in addition to the demographic variables to analyze outcome measures. Forty percent of the test group had an education compared to 19 percent of the comparison group (See Table 2). Twenty-six percent of the females in the test group had an education compared to 28 percent of the females in the comparison group. There was no significant difference between the two study groups for the females. Forty-three percent of the males in the test group had an education, whereas 17 percent

of the comparison had an education. There was a significant difference between the test group males and the comparison group males. Although Department policy does not state that offenders must have a diploma or GED to apply for a Class I position, in practice, businesses may possibly prefer to hire offenders with an education. This is difficult to determine because the requirements might vary across employers and positions.

**Table 2**

EDUCATION STATUS OF STUDY GROUPS			
CLASS I GROUP	<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Males*</b>	145 43%	191 57%	336 100%
<b>Females</b>	23 26%	65 74%	88 100%
<b>Total</b>	168 40%	256 60%	424 100%
COMPARISON*			
<b>Males*</b>	56 17%	267 83%	323 100%
<b>Females</b>	22 28%	58 73%	80 100%
<b>Total</b>	78 19%	325 81%	403 100%
* Statistically different at the $p \leq .05$ level.			

Finally, when discussing the findings and limitations of the demographics, it is important to note that it is more difficult to assure similarity of the female test and comparison groups than it is for the male study groups. Since the female offender population is quite small, and these women must meet minimum eligibility requirements in order to participate in Class I jobs, this leaves relatively few women from which a comparison group can be constructed. That is, almost all women who are eligible for Class I employment actually obtain jobs. The researcher of this study, however, believes the best possible comparison group for the females was constructed by virtue of the comparability of the test and comparison groups.

## RESULTS

### Infractions

In the Department of Corrections, an offender can receive a general or serious infraction. An accumulation of four general infractions constitutes one serious infraction. For the purposes of this study, infractions used for analysis 1) were serious infractions, 2) were received in prison, not work release facilities, and 3) were received within three years of the offender's release date.

Fifty-seven percent of the test group received at least one infraction within three years of release, compared to 46 percent of the comparison group. Table 3 shows the rate of infractions received within each of the three years prior to release.<sup>3</sup> Although a larger percentage of the test group received at least one infraction, there was virtually no difference between the two study groups when comparing the rate of infractions received during the three-year period. Also included in Table 3 are infraction rates for offenders released from prison in Fiscal Year 1996. The data indicate the general prison population has higher infraction rates than the test and comparison groups. Trends in the data show that females have slightly lower infraction rates than males across both study groups and for the general population. Data also indicate a slight increase in infraction rates as the release date draws closer. Results of the analysis do not show a substantial difference between the study groups for infractions received. However, it is clear that there is a difference between the study groups and the general population.

**Table 3**

INFRACTION RATES <sup>#</sup> WITHIN THREE YEARS TO RELEASE									
	CLASS I GROUP			COMPARISON			1996 RELEASES		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
<b>Years to Release</b>									
<b>1 Year</b>	0.46	0.27	0.42	0.57	0.51	0.56	0.94	0.57	0.91
<b>2 Years</b>	0.48	0.55	0.49	0.47	0.36	0.45	0.64	0.40	0.62
<b>3 Years</b>	0.30	0.27	0.29	0.32	0.19	0.29	0.48	0.17	0.48
<b>Total</b>	1.23	1.09	1.20	1.36	1.06	1.30	2.06	1.14	1.97
(For all years)									
<sup>#</sup> The top male and female outliers were deleted from the study groups before calculating the rates.									

<sup>3</sup> Offenders in the test group began Class I employment sometime between one and two years of release.

Infractions were also analyzed by looking at the type of infractions received (See Table 4). Infraction types were broken into four different categories: administrative, person, property, and other. Administrative infractions are those in which institutional rules or policies are violated such as refusal to obey staff orders or improper use of telephone and mail. Person infractions include assault or threatening actions that cause injury to another person, or inappropriate sexual behavior. Property infractions include unauthorized possession, theft, misuse of controlled substances, drugs or alcohol, and soliciting. Other infractions include participation in unacceptable group behavior or creating emergency situations.

Results of the analysis indicate that offenders in the test group had a slightly lower rate of person infractions than the comparison group. Person infractions were the only type of infraction that was statistically significant between the two study groups. There does not appear to be much difference in the types of infractions received by offenders who participated in Class I employment and offenders who did not.

**Table 4**

INFRACTION RATES <sup>#</sup> BY INFRACTION TYPE				
	INFRACTION TYPE			
	Admin.	Person <sup>*</sup>	Property	Other
CLASS I GROUP				
<b>Males</b>	0.45	0.24	0.32	0.23
<b>Females</b>	0.60	0.14	0.20	0.15
<b>Total</b>	0.48	0.21	0.30	0.21
COMPARISON				
<b>Males</b>	0.43	0.35	0.31	0.27
<b>Females</b>	0.44	0.32	0.15	0.15
<b>Total</b>	0.43	0.34	0.28	0.24
* p<= .05				
<sup>#</sup> The top male and female outliers were deleted from the study groups before calculating the rates.				

### Post-Prison Employment Rate

For the purposes of this study, employment was defined as offenders obtaining legal employment in the State of Washington within one year of release from prison. If an offender's employer reported wages to the Employment Security Department at least once in any of the four quarters following the offender's release date, the offender was considered to be employed. Not all employed individuals sustained employment for an entire year, nor did they necessarily hold the same job throughout their employment.

Overall, the test group had statistically significant higher rates of employment than the comparison group (See Table 5). Approximately 69 percent of the test group obtained employment within one year of release compared to 58 percent of the comparison group. Furthermore, results of the regression model indicate that being in the test group was predictive of obtaining employment (See Appendix A).<sup>4</sup>

Regression model results indicate that the most predictive variables for obtaining employment were drug offenders and sex offenders. Seventy-seven percent of the drug offenders in the test group obtained employment followed by 73 percent of sex offenders. Employment rates were very similar across offense types for the comparison group.

**Table 5**

	EMPLOYMENT RATE <sup>1</sup>									
	CLASS I GROUP					COMPARISON				
	Employed N	%	Unemployed N	%	Total N	Employed N	%	Unemployed N	%	Total N
<b>STUDY GROUP*</b>	292	69%	132	31%	424	234	58%	169	42%	403
<b>SEX</b>										
Male	224	67%	112	33%	336	193	60%	130	40%	323
Female*	68	77%	20	23%	88	41	51%	39	49%	80
<b>OFFENSE TYPE*</b>										
Property	28	47%	31	53%	59	36	60%	24	40%	60
Drug*	67	77%	20	23%	87	47	58%	34	42%	81
Person	66	67%	32	33%	98	55	56%	43	44%	98
Sex*	131	73%	49	27%	180	96	59%	68	41%	164
<b>AGE*</b>										
< 30*	71	78%	20	22%	91	63	64%	36	36%	99
30 to 44	183	68%	85	32%	268	148	62%	90	38%	238
45 & up*	38	58%	27	42%	65	23	35%	43	65%	66
<b>RACE</b>										
White*	223	70%	96	30%	319	179	59%	126	41%	305
Black	57	65%	31	35%	88	44	60%	29	40%	73
Other	12	71%	5	29%	17	11	44%	14	56%	25
<b>YEARS IN PRISON</b>										
< 2	53	65%	28	35%	81	140	56%	110	44%	250
2 to 5	164	69%	73	31%	237	68	62%	42	38%	110
5 & up	75	71%	31	29%	106	26	60%	17	40%	43
<b>EDUCATION</b>										
Yes	128	76%	40	24%	168	55	71%	23	29%	78
No*	164	64%	92	36%	256	179	55%	146	45%	325

<sup>1</sup> Employment was obtained within one year of release.

\* p<= .05

<sup>4</sup> The important statistic in interpreting the regression model is the odds ratio, which demonstrates the size effect of the independent variable in predicting the dependent variable. If the odds ratio is 1, the effect is zero. If the odds ratio is 1.5, the probability of the positive relationship is increased by 50 percent. If the odds ratio is 0.7, the probability of the negative relationship is increased by 30 percent.

After drug and sex offenders, education was found to be next most statistically significant predictor of employment. Seventy-six percent of the offenders in the test group who had an education were employed within one year of release, whereas only 64 percent of the offenders who did not have an education obtained employment (See Table 6). Likewise, 71 percent of the offenders in the comparison group who had an education were employed within one year of release, whereas only 55 percent of the offenders who did not have an education obtained employment (See Table 7).

**Table 6**

CLASS I GROUP EMPLOYMENT <sup>1</sup> RATE BY EDUCATION STATUS										
	EDUCATION					NO EDUCATION				
	Employed N	%	Unemployed N	%	Total N	Employed N	%	Unemployed N	%	Total N
<b>CLASS I GROUP*</b>	128	76%	40	24%	168	164	64%	92	36%	256
<b>SEX</b>										
Male*	109	75%	36	25%	145	115	60%	76	40%	191
Female	19	83%	4	17%	23	49	75%	16	25%	65
<b>OFFENSE TYPE</b>										
Property	9	47%	10	53%	19	19	48%	21	53%	40
Drug	20	91%	2	9%	22	47	72%	18	28%	65
Person	23	72%	9	28%	32	43	65%	23	35%	66
Sex*	76	80%	19	20%	95	55	65%	30	35%	85
<b>AGE</b>										
< 30	37	80%	9	20%	46	34	76%	11	24%	45
30 to 44*	76	77%	23	23%	99	107	63%	62	37%	169
45 & up	15	65%	8	35%	23	23	55%	19	45%	42
<b>RACE</b>										
White*	105	77%	31	23%	136	118	64%	65	36%	183
Black	18	69%	8	31%	26	39	63%	23	37%	62
Other	5	83%	1	17%	6	7	64%	4	36%	11
<b>YEARS IN PRISON</b>										
< 2	14	74%	5	26%	19	39	63%	23	37%	62
2 to 5*	80	77%	24	23%	104	84	63%	49	37%	133
5 & up	34	76%	11	24%	45	41	67%	20	33%	61

<sup>1</sup> Employment was obtained within one year of release.

\* p<= .05

**Table 7**

<b>COMPARISON GROUP EMPLOYMENT<sup>1</sup> RATE BY EDUCATION STATUS</b>										
	EDUCATION					NO EDUCATION				
	Employed		Unemployed		Total	Employed		Unemployed		Total
	N	%	N	%	N	N	%	N	%	N
<b>COMPARISON*</b>	55	71%	23	29%	78	179	55%	146	45%	325
<b>SEX</b>										
Male*	42	75%	14	25%	56	151	57%	116	43%	267
Female	13	59%	9	41%	22	28	48%	30	52%	58
<b>OFFENSE TYPE</b>										
Property	9	64%	5	36%	14	27	59%	19	41%	46
Drug	14	64%	8	36%	22	33	56%	26	44%	59
Person	15	71%	6	29%	21	40	52%	37	48%	77
Sex*	17	81%	4	19%	21	79	55%	64	45%	143
<b>AGE</b>										
< 30	24	75%	8	25%	32	39	58%	28	42%	67
30 to 44	30	70%	13	30%	43	118	61%	77	39%	195
45 & up	1	33%	2	67%	3	22	35%	41	65%	63
<b>RACE</b>										
White*	47	73%	17	27%	64	132	55%	109	45%	241
Black	7	58%	5	42%	12	37	61%	24	39%	61
Other	1	50%	1	50%	2	10	43%	13	57%	23
<b>YEARS IN PRISON</b>										
< 2*	40	73%	15	27%	55	100	51%	95	49%	195
2 to 5	9	60%	6	40%	15	59	62%	36	38%	95
5 & up	6	75%	2	25%	8	20	57%	15	43%	35

<sup>1</sup> Employment was obtained within one year of release.

\* p<= .05

### Post-Prison Wages

Post-prison wages were analyzed by totaling the offender's wages earned within one year of release from prison. Before analyzing the data, an outlier test was utilized to determine which wages would skew the distribution, and were subsequently eliminated from analysis.<sup>5</sup> Wages are reported in the findings in two different ways. First, averagetotal wages are reported for test and comparison groups on all demographics (See Table 8). Second, total wages are reported by grouping them into three categories; less than \$5,000; \$5,000 to \$14,999; and \$15,000 and above (See Table 9).

<sup>5</sup> One female was eliminated from the test group whose total wages were more than \$52,000.

**Table 8**

AVERAGE TOTAL WAGES EARNED WITHIN ONE YEAR OF RELEASE					
	CLASS I GROUP			COMPARISON	
	N	Average		N	Average
<b>CLASS I GROUP</b>	291	\$10,663	<b>COMPARISON</b>	234	\$7,049
<b>SEX</b>			<b>SEX</b>		
Male	224	\$11,168	Male	193	\$6,977
Female	67#	\$8,973	Female	41	\$7,385
<b>OFFENSE TYPE</b>			<b>OFFENSE TYPE</b>		
Property	27	\$8,834	Property	36	\$3,854
Drug	67	\$7,597	Drug	47	\$7,051
Person	66	\$9,499	Person	55	\$6,472
Sex	131	\$13,193	Sex	96	\$8,575
<b>AGE</b>			<b>AGE</b>		
< 30	71	\$6,549	< 30	63	\$5,878
30 to 44	182	\$11,941	30 to 44	148	\$7,093
45 & up	38	\$12,228	45 & up	23	\$9,965
<b>RACE</b>			<b>RACE</b>		
White	222	\$11,597	White	179	\$7,192
Black	57	\$7,218	Black	44	\$6,165
Other	12	\$9,735	Other	11	\$8,248
<b>YEARS IN PRISON</b>			<b>YEARS IN PRISON</b>		
< 2	52	\$8,201	< 2	140	\$7,100
2 to 5	164	\$10,589	2 to 5	68	\$7,649
> 5	75	\$12,529	> 5	26	\$5,199
<b>EDUCATION</b>			<b>EDUCATION</b>		
YES	128	\$11,459	YES	55	\$6,358
NO	163	\$10,037	NO	179	\$7,261

# One outlier was deleted before the mean was calculated.

Overall, offenders in the Class I industries group earned higher average total wages than the comparison group. Sixty-seven percent of the offenders in the test group earned wages of \$5,000 or more, whereas 49 percent of the comparison group earned wages of \$5,000 or more. The average total wages for the males in the test group was over \$11,000, and was about \$7,000 for the comparison group males. Females in the test group earned over \$1,500 more than females in the comparison group.

It appears that sex offenders earned the highest average wages of all offense types in both the test and comparison groups. Sex offenders in the test group earned over \$13,000 and sex offenders in the comparison group earned \$8,500. Person offenders earned the next highest average wages in both the test and comparison groups.

**Table 9**

TOTAL WAGES EARNED WITHIN ONE YEAR OF RELEASE															
CLASS I GROUP								COMPARISON							
< \$5,000		\$5 - 14,999		\$15 & up		Total		< \$5,000		\$5 - 14,999		\$15 & up		Total	
N	%	N	%	N	%	N		N	%	N	%	N	%	N	
97	33%	116	40%	78	27%	291		120	51%	77	33%	37	16%	234	
SEX								SEX							
Male	72	32%	89	40%	63	28%	224	Male	99	51%	65	34%	29	15%	193
Female	25	37%	27	40%	15#	22%	67	Female	21	51%	12	29%	8	20%	41
OFFENSE TYPE								OFFENSE TYPE							
Property	12	44%	8	30%	7	26%	27	Property	28	78%	5	14%	3	8%	36
Drug	31	46%	24	36%	12	18%	67	Drug	24	51%	16	34%	7	15%	47
Person	24	36%	29	44%	13	20%	66	Person	30	55%	17	31%	8	15%	55
Sex	30	23%	55	42%	46	35%	131	Sex	38	40%	39	41%	19	20%	96
AGE								AGE							
< 30	34	48%	32	45%	5	7%	71	< 30	38	60%	14	22%	11	17%	63
30 to 44	52	29%	70	38%	60	33%	182	30 to 44	73	49%	56	38%	19	13%	148
45 & up	11	29%	14	37%	13	34%	38	45 & up	9	39%	7	30%	7	30%	23
RACE								RACE							
White	60	27%	97	44%	65	29%	222	White	87	49%	64	36%	28	16%	179
Black	32	56%	15	26%	10	18%	57	Black	28	64%	10	23%	6	14%	44
Other	5	42%	4	33%	3	25%	12	Other	5	45%	3	27%	3	27%	11
YEARS IN PRISON								YEARS IN PRISON							
< 2	23	44%	18	35%	11	21%	52	< 2	70	50%	46	33%	24	17%	140
2 to 5	55	34%	66	40%	43	26%	164	2 to 5	32	47%	27	40%	9	13%	68
> 5	19	25%	32	43%	24	32%	75	> 5	18	69%	4	15%	4	15%	26
EDUCATION								EDUCATION							
YES	41	32%	52	41%	35	27%	128	YES	29	53%	19	35%	7	13%	55
NO	56	34%	64	39%	44	27%	164	NO	91	51%	58	32%	30	17%	179
* p <= .05    # One outlier was deleted before the mean was calculated.															

\* p <= .05 # One outlier was deleted before the mean was calculated.

For both the test and comparison groups, there appears to be a positive relationship between age and total wages earned. Older offenders earn higher wages than younger offenders. The average age for both study groups increases with each wage category.

For offenders in the test group, there appears to be a positive relationship between length of incarceration and wages earned. Long-term incarcerates in the test group (offenders incarcerated for five or more years) earn over \$4,000 more than offenders in the test group who were incarcerated for less than two years. Offenders in the comparison group do not follow the same pattern.

Test group offenders with an education earned about \$1,400 more than test group offenders who did not have an education. This was not true for the comparison group.

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Only 32 percent of the test group offenders with an education earned less than \$5,000, whereas more than half of the comparison group who had an education earned less than \$5,000.

## Recidivism

It is important to understand the definition of recidivism because it impacts the way one evaluates program effectiveness. Recidivism has been defined by the Department as “a return to a Washington State adult correctional facility as the result of a new conviction or parole violation by an offender who either had been paroled or been discharged from such a facility” (Recidivism Briefing Paper No. 18). This is the definition is also used for the purposes of this paper. Typically, the Department tracks recidivism for five years subsequent to the offender’s release from prison. However, due to data limitations at the time this paper was written, **offenders were tracked for three years from release.**

Table 10 displays the recidivism rate for the test and comparison groups in addition to the recidivism rate by employment status. The recidivism rate for the test group offenders who obtained employment was 15 percent and 21 percent for those who did not obtain employment, resulting in an overall recidivism rate of 17 percent. Recidivism rates for the comparison group did not differ by employment status, resulting in an overall recidivism rate of 24 percent.

Results of the regression model indicate there are several variables that are statistically significant predictors of recidivism (See Appendix B). The demographic variables found to be significant predictors of recidivism (property offenders, black offenders and males) are very consistent with previous recidivism findings by the Department (Briefing Paper No. 20). Other significant predictors such as wages earned and being in the comparison group are indicative of program effectiveness.

**Table 10**

PERCENT RETURNED WITHIN THREE YEARS OF RELEASE							
	CLASS I GROUP				COMPARISON		
	E <sup>1</sup>	U <sup>2</sup>	Total <sup>3</sup>		E <sup>1</sup>	U <sup>2</sup>	Total <sup>3</sup>
	15%	21%	17%		24%	24%	24%
<b>SEX</b>				<b>SEX</b>			
Male*	18%	21%	19%	Male*	26%	25%	26%
Female*	6%	20%	9%	Female*	15%	21%	18%
<b>OFFENSE TYPE*</b>				<b>OFFENSE TYPE</b>			
Property*	18%	29%	24%	Property	53%	46%	50%
Drug*	13%	20%	15%	Drug*	19%	29%	23%
Person*	26%	28%	27%	Person*	35%	28%	32%
Sex*	10%	12%	11%	Sex*	10%	10%	10%
<b>AGE</b>				<b>AGE</b>			
< 30*	13%	40%	17%	< 30*	24%	31%	26%
30 to 44*	17%	11%	15%	30 to 44*	27%	23%	26%
45 & up*	11%	19%	14%	45 & up*	9%	19%	15%
<b>RACE*</b>				<b>RACE*</b>			
White*	11%	16%	13%	White*	21%	20%	21%
Black*	30%	39%	33%	Black	39%	52%	44%
Other*	17%	20%	18%	Other	18%	0%	8%
<b>YEARS IN PRISON</b>				<b>YEARS IN PRISON</b>			
< 2*	17%	36%	23%	< 2*	25%	27%	26%
2 to 5*	12%	21%	15%	2 to 5*	19%	17%	18%
> 5*	20%	10%	17%	> 5*	35%	18%	28%
<b>EDUCATION</b>				<b>EDUCATION</b>			
Yes*	16%	20%	17%	Yes*	27%	17%	24%
No*	14%	22%	17%	No*	23%	25%	24%
<b>TOTAL WAGES*</b>				<b>TOTAL WAGES</b>			
< \$5,000*	27%	-	27%	< \$5,000*	40%	-	40%
\$5 - 14,999*	10%	-	10%	\$5 - 14,999*	9%	-	9%
\$15 & up*	8%	-	8%	\$15 & up*	5%	-	5%
* p<= .05 (Significance for offenders who returned regardless of employment status.)							
1 Employed (Class I Group N = 292, Comparison N = 234),							
2 Unemployed (Class I Group N = 133, Comparison N = 169)							
3 Employed and Unemployed (Class I Group N = 424, Comparison N = 403)							

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## DISCUSSION

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Limitations of the study should be addressed before drawing conclusions from the results. In two instances the study groups were too small to conduct statistical procedures necessary to determine the relationship between independent and dependent variables. First, findings for the females are not as conclusive as findings for the males. Since the female population for Class I industries is so small, it is difficult to ascertain the size of the treatment effect. Second, findings for offenders whose race was not white or black should be regarded with caution. For future research it might be necessary to create larger study groups in order to draw any significant conclusions about these two demographics.

Given these limitations, however, findings of the study suggest that Correctional Industries Class I jobs have a positive impact on several outcome measures. Offenders who were involved in Class I jobs had higher employment rates, earned higher post-prison wages, and recidivated less often than their counterparts. Given the results of the study, it is also apparent that the impact of in-prison employment on outcomes is multi-faceted. Several important trends and outcomes discovered from the findings are discussed here.

The first outcome that warrants discussion is the results of the infractions analysis. Although some have found programming to have a positive effect on the number of infractions offenders receive (Wilson et al. 2000; Van Valkenberg 1998; Saylor and Gaes 1996), findings from the present study show no difference between the two study groups. Results revealed that offenders who were involved in Class I industries may have had a slightly lower rate of infractions, but more offenders in the test group had at least one infraction than the comparison group. A limitation to the infractions findings in this study, however, was the inability to determine when test group offenders completed Class I employment. Thus, there lacks a solid understanding of how many infractions occurred during an offender's employment and whether or not there was a difference between the infractions received before, during, and following in-prison employment.

Despite this data limitation, however, it may be postulated that since Class I offenders have strict work requirements and earn higher wages than other types of industries, they may have a greater opportunity to violate institutional policy, resulting in an infraction. For instance, offenders in Class I industries would have more of an opportunity to receive an infraction due to the administrative rules that are placed on the nature of the work environment (i.e., being late to work, refusal to obey an order). In addition, because

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offenders in Class I industries are paid standard wages, unlike other types of industries, this may enable them to have the monetary means to participate in infractive type behaviors.

A second finding from the study was the relationship between age and post-prison outcomes in both the test and comparison groups. Results demonstrate that as employment rates increased, the age of the offender decreased. Despite lower employment rates for older offenders, however, older offenders still earned higher wages than younger offenders. In addition, older offenders returned at lower rates than younger offenders.

Criminologists have attempted to explain the relationship between crime and age for years. Two explanations of the “aging out” effect in the literature are the latent trait perspective and the life-course perspective. Proponents of a latent trait contend that criminal behavior is the result of low self-control that is present at an early age and persists throughout life (Gottfredson and Hirschi 1990). Thus, persons who have self-control are able to mature out of criminal activity. Proponents of the life-course perspective, contend that changes in criminal behavior are a response to life events such as marriage, employment and children (Warr 1998; Sampson and Laub 1993).

In this particular study, it is unclear which theory might help to explain the relationship between age and post-prison behaviors. These theories would help to explain how age might be studied in the future. It is possible that younger offenders have higher employment rates because they are more likely than older offenders to lead a lifestyle consisting of transient employment to make ends meet, rather than an attempt to develop a career. Findings of this study simply indicate there is indeed a relationship between age and employment patterns and recidivism. The extent of that relationship is unclear. Thus, future research should not only investigate employment rates, but also the rate at which offenders change jobs, the length of time an offender sustains employment, and the type of jobs offenders obtain.

A third important finding that emerged from the study is the relationship between length of incarceration and the post-prison outcomes. Private sector businesses target long-term incarcerates in order to fully utilize resources for training and to ensure job stability. Results of the study indicate that long-term incarcerates in the test group had higher employment rates and also higher average wages than short-term incarcerates. Long-term incarcerates who found employment, however, did not recidivate at a lower rate than short-term incarcerates who found employment.

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One might conclude that long-term incarcerates who participate in Class I employment gain more work experience, which may be predictive of a higher employment rate. According to labeling theory, people who have been incarcerated may acquire a societal label of being a 'convict' or a 'criminal', and therefore, have a more difficult time transitioning back into the community (Akers 1997). The findings of the study indicate this may indeed be an explanation for the comparison group, who had higher unemployment rates and lower average wages in the absence of Class I employment. Stigmatization is probably less true for long-term incarcerates in the test group whose work experience during incarceration may have counteracted possible labeling.

A final important finding that emerged from the study was the relationship between education and the post-prison outcomes. The results demonstrate that offenders with an education (in both study groups) were more likely to be employed. Having an education was one of the most predictive variables of employment in the regression model. In addition to higher employment rates, educated offenders in the test group also earned higher post-prison wages. This was not true for the comparison group. In regards to recidivism, several studies have found education programs to have a significant impact on reducing recidivism rates (Steurer et al. 2001; Wilson et al. 2000; Ohio Department of Rehabilitation and Correction 1995). Despite the findings of previous studies, and despite other positive employment patterns in the present study, education does not appear to play a statistically significant role in whether or not an offender returns to prison when controlling for all other variables.

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## CONCLUSIONS

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Recommendations for improvement of future research include the use of a pre/post quasi-experimental design. Test and comparison groups could be formulated ex post facto, as done in the present study, and employment data could be acquired in order to determine employment and earnings patterns both before and after incarceration. A pre/post design would help to further isolate and understand the effects of the treatment by being able to look at employment trends prior to the treatment. An additional recommendation would be the use of employment exit dates in order to understand how much treatment is necessary to acquire the positive benefits the program has on outcome measures.

At the beginning of this study, a variety of reasons were discussed as to why employment and education programs exist. Several of those reasons have been supported by the findings of this study. First, we found that providing employment, education and skills training augments the employability of an offender upon release to the community, resulting in higher employment rates. Second, the presumption that employment provides offenders with the proper skills to desist from crime was supported. Third, although not in the scope of this study, the state and community incur a cost savings when offenders have the ability to pay for incarceration, restitution, legal debts and taxes. A final rationale for employment and education programs is the presumption that participation in work and education decreases the number of infractions an offender receives. Although this hypothesis was not supported by the findings of this study, it was also not rejected.

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## APPENDIX A

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LOGISTIC REGRESSION MODEL PREDICTING EMPLOYMENT				
INDEPENDENT VARIABLE	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio
Drug crime*	0.72	0.28	6.65	2.06
Sex crime*	0.61	0.24	6.61	1.85
Education - yes*	0.46	0.18	6.64	1.59
Class I group*	0.33	0.16	4.13	1.39
Person crime*	0.30	0.25	1.40	1.35
White	0.20	0.19	0.19	1.22
Years incarcerated	0.05	0.03	2.66	1.05
Females	0.03	0.23	0.02	1.03
Age at release*	-0.05	0.01	32.50	0.95
<b>Model Fit</b>				
Percent concordant pairs	66			
c statistic	0.665			
* p<= .05				

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## APPENDIX B

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LOGISTIC REGRESSION MODEL PREDICTING RECIDIVISM				
INDEPENDENT VARIABLE	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio
Property crime*	1.55	0.29	28.66	4.72
Earned < \$5,000*	1.54	0.41	13.85	4.68
Black*	1.14	0.23	25.18	3.13
Male*	1.13	0.30	14.21	3.09
Person crime*	1.11	0.25	19.07	3.03
Drug crime*	0.76	0.34	4.95	2.14
Employed	0.43	0.22	3.84	1.54
Comparison group*	0.42	0.20	4.28	1.53
Earned \$5,000 to \$15,000	0.29	0.46	0.39	1.33
Education - yes	0.12	0.22	0.30	1.13
Years incarcerated	0.04	0.03	1.17	1.04
Age at release	-0.02	0.01	1.83	0.99
<b>Model Fit</b>				
Percent concordant pairs	77.7			
c statistic	0.778			
* p<= .05				